

Solution Deployment Guide: Remote PC Management Made Simple with Intel® vPro™ Technology and Intel® Active Management Technology

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¹ Intel® Active Management Technology requires the platform to have an Intel® AMT-enabled chipset, network hardware and software. The platform must also be connected to a power source and an active LAN port.

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Solution Overview

Intel has created a unique Manageability solution utilizing Intel® vPro™ technology and Intel® Active Management (Intel® AMT) to enable its channel partners to provide complete platforms to their customers, backed up by top-quality technology and support. This Solution Deployment Guide examines the need for a more secure, robust, and efficient management experience which can be addressed using Intel vPro technology-based PCs enhanced with Intel Active Management Technology. Intel AMT uses built-in platform capabilities and popular third-party management and security applications allowing IT departments to better discover, heal, and protect their networked computing assets.

This document describes how the Dual-Core Intel® Xeon® processor-based server platforms utilizing Intel AMT and SyAM* management software coupled with Intel vPro technology-based PCs can be deployed to address the problems that a *small to medium sized* business (SMB) must contend with on a daily basis.

Target Audience

This guide is intended for system integrators and resellers interested in building and deploying solutions built on an Intel vPro technology-based PC.

Manageability Usage Models

- **New revenue opportunities.** Help create new revenue streams for your business by extending service offerings to customers, by providing remote monitoring, management, and repair. Augment your PC management services with additional offerings, such as data protection, application hosting, storage and security services, and training
- **Fewer deskside visits.** With the ability to proactively monitor, alert and enable remote resolution, your technicians can quickly and effectively resolve problems, reducing travel time and expenses related to customer visits and increase the number of PCs your service technicians can manage.

Benefits for Your Customers

- **Reduced downtime.** Using Intel vPro technology can reduce the devastating financial impact of downtime whether your customers use it to better manage their own desktops or have you do it for them. For example, if a fan malfunctions on a customer PC, Intel vPro technology will automatically send you an email alert. You can either contact your customer to have a technician swap out the fan or make the swap yourself, replacing it before the customer even knows that there is a problem—and before the loss of the fan causes the PC to fail. Plus, since you know in advance exactly which part is in jeopardy, you make only one trip to the customer site with the correct part in hand.

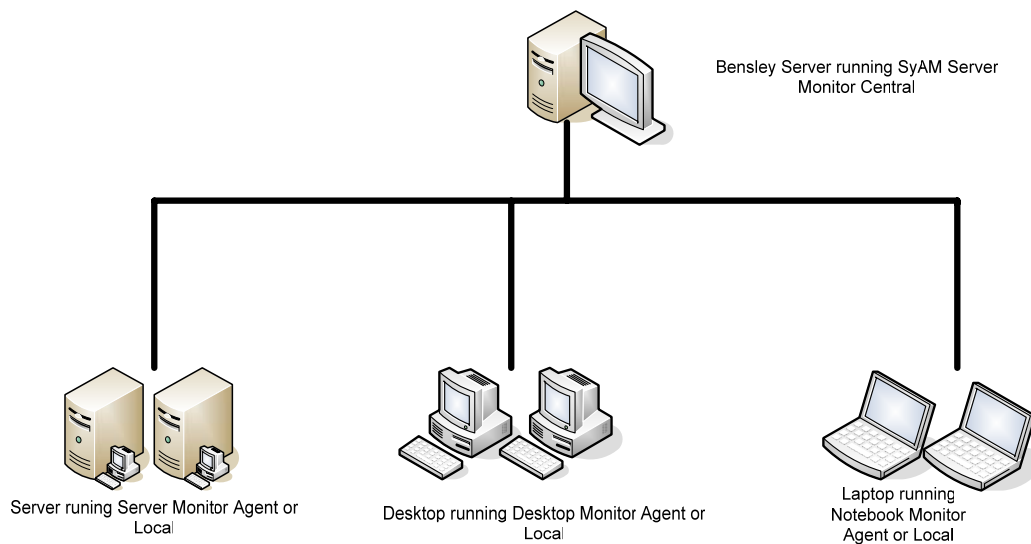
- **Peace of mind.** With Intel vPro technology proactively monitoring their PCs and notifying them (or you) of potential problems, your customers can focus on running their businesses, serving their customers, and using their PCs to maximize competitive advantage, rather than worrying about their network.
- **Protection from Internet dangers.** Your customers will have the assurance that their computers are running the latest virus protection and operating system updates, giving them the assurance that their business-critical systems have up-to-the-minute protection.
- **Cost effective technology management costs.** Having you manage their servers, desktops, and notebooks for them gives your customers a cost-effective alternative to hiring expensive hardware and software experts. Having the ability to diagnose and even repair many problems remotely, your customers pay for fewer service calls.

Solution Architecture

SyAM* software can be used for managing the following systems:

- Dual-Core Intel Xeon processor-based servers
- Intel vPro technology-based platforms with Intel AMT support
- Laptops with Intel® Centrino® Duo mobile technology

Administrators can manage the above systems using the SyAM Central Management Interface with Microsoft* Internet Explorer or Mozilla* Firefox browsers.



Common Notations and Terms

Intel® AMT: Intel® Active Management Technology.

Server Monitor Central: the SyAM Software that provides a single user interface and ability to manage servers, desktops, and notebook platforms running the SyAM Server/Desktop/Notebook Monitor Local Management Software.

Server/Desktop/Notebook Monitor Local: the SyAM Software that provides the ability to manage a single server, desktop, and notebook platform. These systems can also be managed centrally via the Server Monitor Central.

OOB: out-of-band. Communications to and from remote platforms that are not handled by the remote platform's operating system (OS).

In-band: communications to and from remote platforms that are handled by the remote platform's OS. The remote platform OS must be operational for in-band communications to work.

SOL: serial over local area network allows remote keyboard and text redirection.

IPMI: Intelligent Platform Management Interface 2.0 is a specification designed to improve remote management and configuration capabilities.

BMC: Baseboard Management Controller.

Components to Build SyAM Software Manageability Solution

- Dual-Core Intel Xeon processor-based server running Microsoft* Windows 2003 Server Enterprise x64 Edition R2
- Intel® Desktop Boards Executive Series motherboard based on the Intel® Q965 Express Chipset with Intel AMT support running Microsoft Windows XP Professional SP2
- SyAM Software Server Monitor Central 3.2 to install on Dual-Core Intel Xeon processor-based server
- SyAM Software Server/Desktop/Notebook Monitor Local 3.2 to install on Intel vPro technology-based PCs supporting Intel AMT

NOTE:

For more details, see the Hardware Configuration and Recommendation section in this document.

Where to Get Manageability Solution Components

Products	Link
SyAM software	http://www.syamsoftware.com
Microsoft Windows Server 2003 and Windows XP Pro software	http://www.microsoft.com
Symantec* Norton Internet Security 2006 software	may be obtained from http://www.symantec.com/home_homeoffice/products/overview.jsp?pcid=is&pvid=nis2006
Intel® PRO1000 network driver	http://downloadfinder.intel.com/scripts-df-external/Detail_Desc.aspx?DwnldID=6759
Java Runtime Environment	If you prepare to use the remote console feature, you need to install the Java Runtime Environment (JRE) on the server. For instructions on how to install the JRE, go to the following link: http://www.java.com/en/download/help/5000010400.xml

Introduction/Links

- Support information: <http://www.syamsoftware.com/support>
- Production information: <http://www.syamsoftware.com/products>
- Intel hardware setup information link:
<http://support.intel.com/support/motherboards/server/<product>/manual.htm>
- Symantec Norton Internet Security 2006 support information:
<http://www.symantec.com/techsupp/index.html>
- For Intel vPro technology-based PC solution deployment guides and release notes, please refer to:
<http://www.intel.com/reseller/vpro>

Getting Started

Hardware Configuration and Recommendation

The following hardware configuration is recommended to run the SyAM Software management software:

- At least one Dual-Core Intel Xeon processor-based server. To use IPMI features, you will need at least one more Dual Core Intel Xeon processor-based server.
- At least one Intel vPro technology-based client with Intel AMT2 support

Server Configuration

Below is a sample Dual-Core Intel Xeon processor-based server configuration. See Intel's support website (<http://support.intel.com/>) for a list of tested parts to ensure compatibility.

Qty	Item	Manufacturer	Model
1	Motherboard	Intel	Intel® Server Board S5000VSA
1	Chassis		
1	Power supply		550W
2	Processor	Intel	Dual-Core Intel Xeon processor, 3.2 GHZ
2	RAM		2x512 MB
1	CD-ROM		Standard
1	Hard drive		SATA HDD 160 GB

Client Configuration

Below is a sample Intel vPro technology-based client configuration. See Intel's support website for a list of tested parts to ensure compatibility.

Qty	Item	Manufacturer	Model
1	Motherboard	Intel	Intel® Desktop Board DQ965GF
1	Chassis		
1	Power supply		350W
1	CPU	Intel	Intel Core2 Duo processor, 2.4 GHZ
2	RAM		2x512 MB
1	CD-ROM		Standard
1	Hard drive		SATA HDD 120 GB

Software Configuration and Recommendation

SyAM software can be installed on both Microsoft Windows and Linux. Below is a list of all the software the user needs to build this solution on Microsoft Windows:

Server Software

Qty	ISV	Application Name	Version
1	SyAM Software	SyAM Software Server Monitor Central	3.2
1	Microsoft	Microsoft Windows Server 2003 Enterprise x64 Edition	R2
1	Microsoft	Microsoft Internet Explorer	6.0 or higher
1	Sun	Java Runtime Environment	1.4.2 or higher

Client Software

Qty	ISV	Application Name	Version
1	SyAM Software	SyAM Server/ Desktop/ Notebook Monitor Local	3.2
1	Microsoft	Microsoft Windows XP Professional	R2
1	Microsoft	Microsoft Internet Explorer browser	6.0 or higher

Installing Software

To install the SyAM Management Software 3.2, you will need the following:

1. SyAM Software 3.2 installation CD, which includes the Central Management and Local Management products, or you can download SyAM Server Monitor Central software package from the SyAM Software website, www.syamsoftware.com/downloads which includes:
 - Server Monitor Central product
 - Server/Desktop/Notebook Monitor Local products
2. Dual-Core Intel Xeon processor-based server that meets the system requirements for SyAM Software.
3. Intel vPro technology-based PC that meets the system requirements for SyAM Software.

It is recommended that you install the SyAM Server Monitor Central management software first; this should be installed on the Dual-Core Intel Xeon processor-based server. Follow the instructions in the *Install SyAM Server Monitor Central Software on a Server* section on page 13 of this document. A quick start guide is available from www.syamsoftware.com/downloads

Before you can manage the Intel vPro technology-based client system, you must install SyAM Software Server/Desktop/Notebook Monitor Local software on the client. Follow the instructions in the *Install SyAM Software Server/Desktop/Notebook/Monitor Local Software on Clients* section below. A quick start guide is available from www.syamsoftware.com/downloads

Install SyAM Software Server/Desktop/Notebook Monitor Local Software on Clients

NOTE

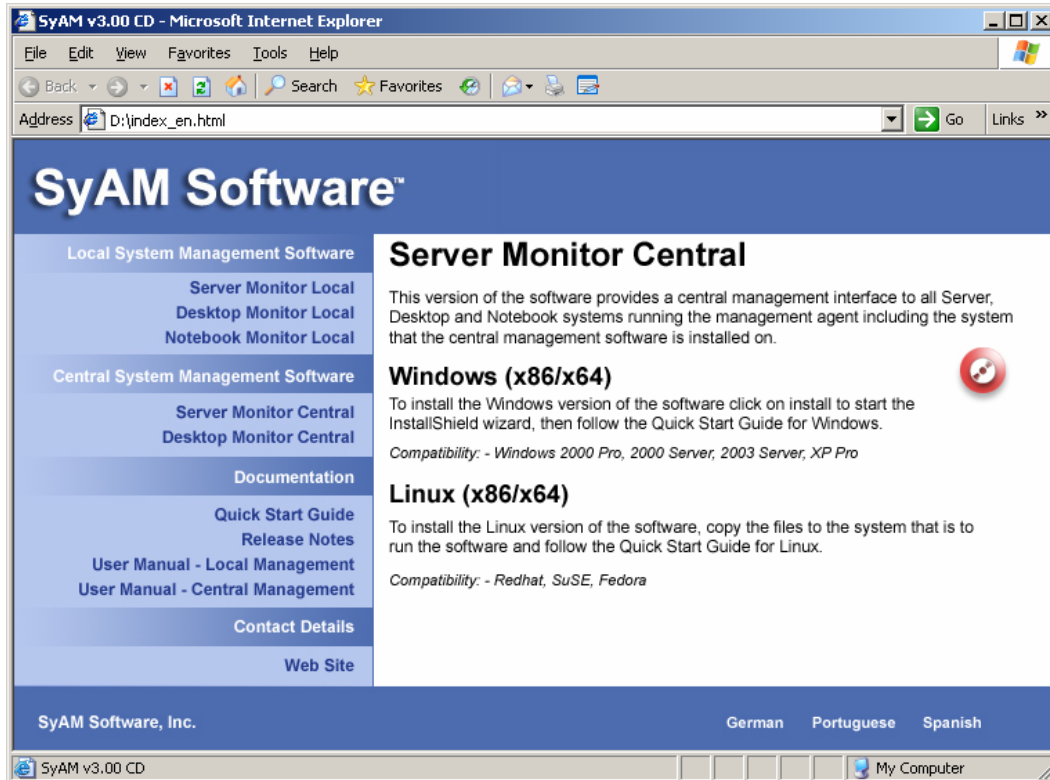
You should always install Server/Desktop/Notebook Monitor Local on a client platform unless you want the client system to manage other systems, then you should install Server Monitor Central.

There are three ways to load the software:


- Load the SyAM Software CD
- Select Desktop Monitor Local you want to install from the screen menu
- Double click the downloaded SyAM executable

If the Autorun doesn't launch the installation program, browse to the CD and double click **index_en.html** to launch the installation program. Click on the appropriate language option at the bottom of the menu to change the language the menu is displayed in.

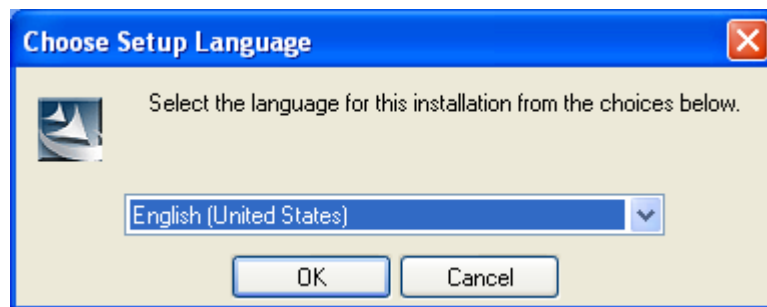
Below is a screenshot showing the installation from the SyAM Software CD.



1. Select **Server/Desktop/Notebook Monitor Local** on the left-hand panel, click

the red CD icon  on the right, and then follow the installation wizard instructions.

2. Select the proper language; the default language is English. Click **OK**.



3. Click **Next** on the Welcome page.
4. Select **I accept the terms in license agreement** and then click **Next**.
5. Choose the destination folder. If you want to make a change, click **Change**; otherwise click **Next**. The default directory is **c:\SyAM for the SyAM software**.

6. Server/Desktop/Notebook Monitor Local installs a Web Server (for local interface) and Agent on the local hard drive.
7. In the SSL Enable dialog, click **Next** to choose **No** as the default option. However, if you want more security, select **Yes** and then click **Next**.
8. Click **Install** if you are ready to install the SyAM Software. Clicking **Install** will install all the components required to run SyAM Server Monitor Central on your hard disk.
9. Click **Finish** to complete the SyAM Software installation. The SyAM services will start and dynamically discover and configure your system's monitoring environment in the background.

Install SyAM Server Monitor Central Software on a Server

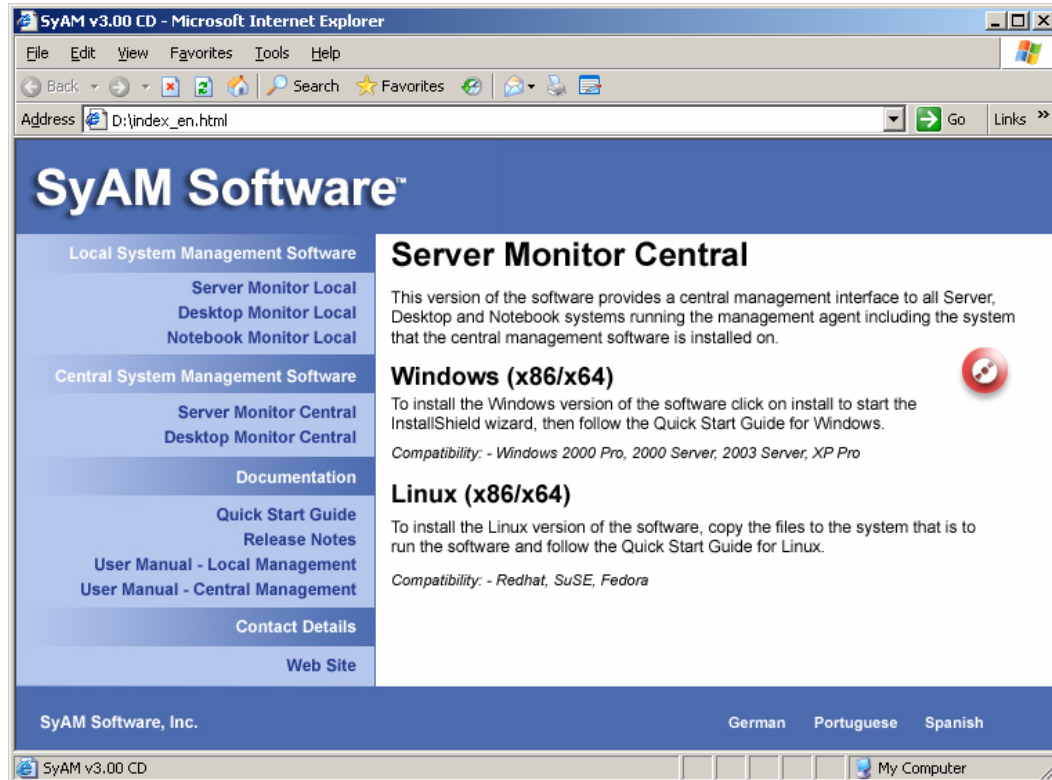
Make note of the following information:

- During the evaluation period, the Central Management System can only manage three (3) desktops/notebooks and two (2) servers.
- A reboot is required after uninstalling and before reinstalling the software. No reboot is required after installation.
- Unformatted disks connected to a system will appear in red (critical). Formatting the drive or removing that drive from the listing of monitored devices will clear this condition.
- The software will open up the required firewall ports on Microsoft Windows 2003 and XP Professional.

Installing SyAM Server Monitor Central on a Dual-Core Intel Xeon processor-based server is very similar to the Desktop Monitor Central installation on the Intel vPro technology-based client.

Launch the installation program if Autorun does not work. Select **Server Monitor Central** to install and follow the installation wizard instructions.

Below is a screenshot showing the installation from the SyAM Software CD.



Successful Installation Indicator

Server

You can check if the SyAM Software has been successfully installed on the server by doing the following:

- You should see **C:\SyAM** directory if you have not changed the destination folder during installation.
- Click on **Start -> All Programs** and you should see the SyAM program group and be able to launch SyAM Server Monitor Console.
- Click on **Start-> Control Panel->Administrative Tools->Services**. Confirm that the following services are running on Microsoft Windows Server 2003:
 - Server Monitor Agent
 - Server Monitor Central Manager
 - Server Monitor Web Server

Client

You can check if the SyAM Software has been successfully installed on the client by doing the following:

1. You should see **C:\SyAM** directory if you have not changed the destination folder during installation.
2. Click on **Start -> All Programs** and you should see the SyAM program group and be able to launch SyAM **Desktop Monitor Console**. (This will only appear if you chose to install Local – if you installed Agent there is no console and it must be managed via the Server Monitor Central).
3. Right click on the **My Computer** icon on the desktop; select **Manage-> Services and Applications->Services**. Confirm that the following services are running on Microsoft Windows XP Pro:
 - Server/Desktop/Notebook Monitor Agent
 - Server/Desktop/Notebook Monitor Web Server

Configuration

Before you can manage a client system, there are some configurations you need to do. Follow each sections listed below in order to configure your client system.

Configuring the IP Address

Before you can add a managed system to the Central Management Tree, you should configure your server running the Server Monitor Central software with a static IP Address. Consult your operating system's user manual for information about setting up static IP on that system.

NOTE:

You only need to set up a static IP on the server running the Server Monitor Central software; clients can be DHCP or Static IP Addresses.

Configuring Intel® Active Management Technology (Intel® AMT)

NOTE

*Different platforms use different function keys to enter BIOS setup. Try **F2** first, if it doesn't work, try **DEL**.*

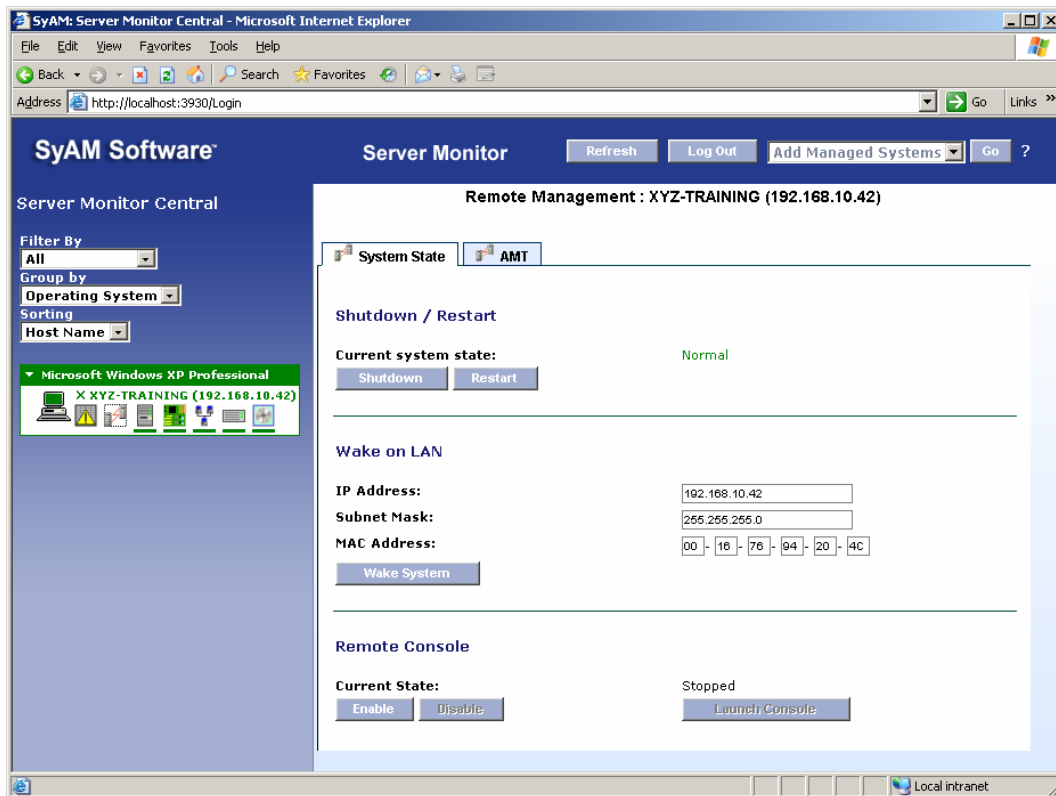
To use the Intel AMT feature on Intel vPro technology-based PCs, you must configure Intel AMT in BIOS first. Follow the steps below to configure Intel AMT in the BIOS.

1. Boot the target system.
2. Press **F2** to enter the BIOS setup.
3. Select **Intel® ME** on the top menu bar, press Enter.
4. You will be prompted to enter a password. Enter **admin** at the first prompt and then press **Enter**.
5. You will be prompted to enter a new password. The new password must be strong, i.e., it must include at least:
 - Eight (8) characters
 - One upper case letter
 - One lower case letter
 - A number
 - A special character/non-alpha-numeric character (Example: **!**, **@**, **#**, **\$**, **%**, **^**, **&**, *****).
 - No blanks or the characters **'<'** or **'>'**.
6. Enter a new password, press **Enter**. The Verify password prompt will display. Enter the new password again and press **Enter**.

7. After you change the Management Engine password, the following options will display on screen:
 - Intel® Management Engine Configuration
 - Intel® Active Management Technology Configuration
 - Change Intel® Management Engine Password
 - Save and Commit Settings
8. Highlight the **Intel® Management Engine Configuration** option and then press **Enter** to display the page.
9. The **Manageability Feature, keep the default <Intel ® AMT>** option will show.
10. To return to the previous menu, press **ESC**.
11. Highlight the **Intel ® Active Management Technology Configuration** option and then press **Enter**.
12. The following options will display under the **Intel ® Active Management Technology Configuration** screen:
 - Computer Name iDBO
 - TCP/IP Configuration
 - Provisioning Configuration
 - IDER/SOL Configuration
13. Scroll down to highlight **TCP/IP Configuration**. Press **Enter**.
14. The following options will display under the **TCP/IP Configuration** screen:
 - DHCP Enabled []
 - IP Address
 - Subnet Mask Address
 - Gateway Address
 - Preferred DNS Address
 - Alternate DNS Address
 - Domain Name
15. If **DHCP Enabled** checkbox is checked, DHCP is enabled; otherwise it is set to use the static IP address.
16. If DHCP is disabled, configure the IP address and subnet mask address. Enter the appropriate IP and subnet mask address. If you enter a static IP address, make sure the IP address is different from the operating system.
17. After you are done configuring TCP/IP, press **ESC** to return to the previous menu.
18. Highlight the **Provisioning Configuration** option and then press **Enter**.
19. The following options will display under the **Provisioning Configuration** screen:
 - **Provisioning Mode** – there are two options. Use the Small-Medium Business (No TLS) option. Don't select the Enterprise (TLS) option.
 - **Compatibility Mode** – You can switch between AMT 1.0 and 2.0 by highlighting Compatibility Mode on the Intel AMT page. Press **Enter** to select between Intel® AMT Generation 2.0 and Intel AMT Generation 1.0.
20. To return to the previous menu, press **ESC**.
21. If you want to configure SOL/IDER, highlight the **SOL/IDER Configuration** option and then press **Enter**.

22. The following option will display under the **SOL/IDER Configuration** screen:
SOL/IDER Authentication Mode – this has two options:
 1. Kerberos only
 2. User Name and Password. The 2nd option is the default.
 23. To return to the previous menu, press **ESC**.
 24. To return to the main System Setup, press **ESC** again.
 25. To save the changes, highlight **Save and Commit Settings** and then press **Enter**.
 26. The **Confirmation Page** will display and **Yes, submit the new settings** will be highlighted. Press **Enter** to submit the changes.
 27. Press **F10** and **Y** to exit BIOS setup and boot to OS for new settings to take effect.
- After 20 seconds the system will report up to the Server Monitor Central that it has AMT capabilities. The Intel AMT tab will now display on the Remote Management page for that managed system.

Below is a screenshot of the Remote Management Page showing the AMT tab.



How to Use This Solution

Sections below describe the usage of the **Server Monitor** and **Desktop/Notebook Monitor** interfaces.

Logging In

Logging into SyAM Server/Desktop/Notebook Monitor Local interface is very similar to logging into the Server Monitor Central interface. For details, see the information below about logging into the Server/Desktop/Notebook Monitor interface.

There are two ways to access the SyAM Software user interface:

1. One way is to click **Start->All Programs->Server Monitor Central** on Microsoft Windows 2003 Server. You are required to be present on the system running the Local or Central Software.
2. The most common and effective way is to open a Web browser on any system that is on the same network as the server.

http://server_IP_Address_or_server_machinename:3930/

Example <http://192.168.10.10:3930/>

Example <http://bensley-svr-4:3930/> (in this example **bensley-svr-4** is the server machine name).

If you enabled SSL during installation, you are required to use **https** instead of **http** in the above examples.

Example <https://192.168.10.10:3930/>

The **Log In** page will display (see Figure 1).

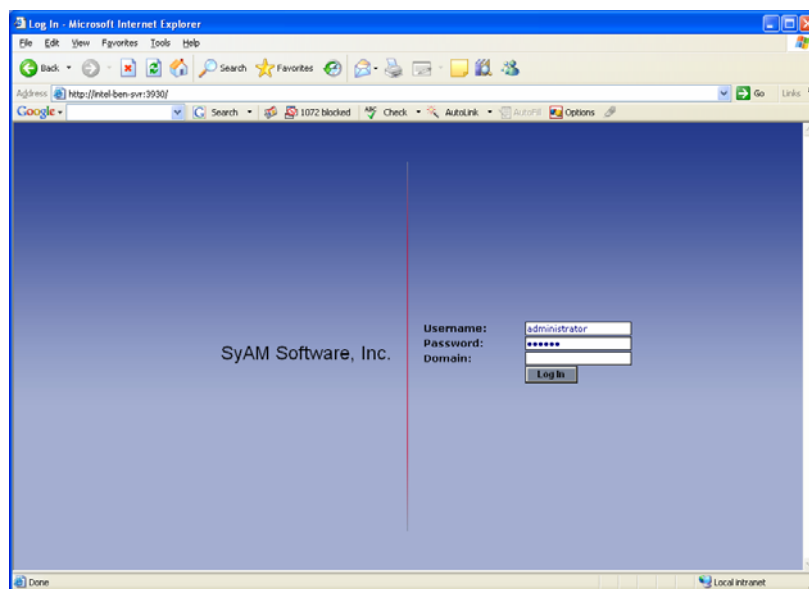


Figure 1. Login window

Standalone Systems (not in a Microsoft Windows Domain)

- The user name and password must be valid on the system you are logging into.
- The user must have administrator rights on the system.

Systems on a Microsoft Windows Domain

- The user name and password must be valid on the domain.
- The user must have "Domain Admin" rights within the Microsoft Windows domain.

A valid domain name must be entered in the domain field.

When you have completed your management session, choose **Log Out** on the main header. Successful logout returns you to the login window (see Figure 2).

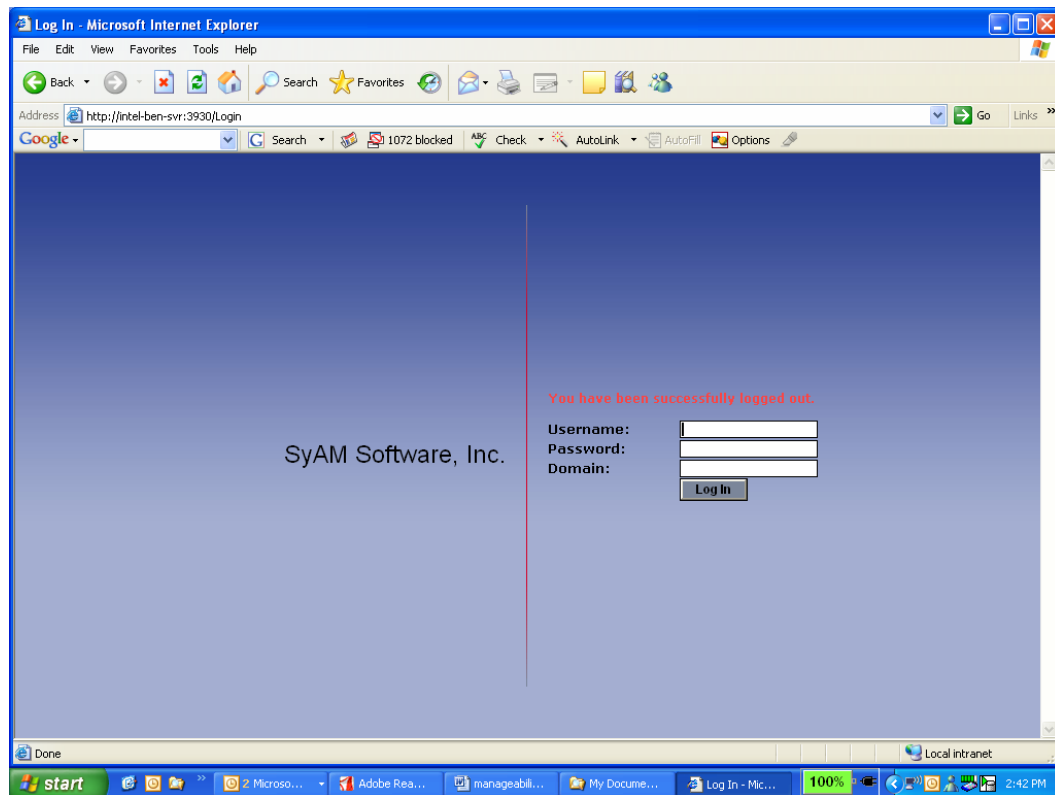


Figure 2. Successful Logout window

For added security you will be logged out automatically after 30 minutes of inactivity.

Adding a System to the Management Tree

Systems must be added to the Management Tree before they can be managed centrally through the Server Monitor Central software.

You can only add systems that are running SyAM Software Agent, which is part of SyAM Server/Desktop/Notebook Monitor Local software package, and may only add those systems up to the limit set by your license key. The Server Monitor Central software also combines the SyAM Software agent so that system too can be managed.

NOTE:

Make sure the servers running the Server Monitor Central software are configured with a static IP. The clients can be configured either for DHCP or with static IP addresses. All systems need to be on the same network but can be on different subnets if the server running the Server Monitor Central has accessed to both subnets.

To add a system or discover systems to be added to the Server Monitor Central, select **Add Managed Systems** from the drop down menu on the header bar.

1. Enter the IP address in the **From** and **To** fields.
 - To add a single system, enter the same IP address in the **From** and **To** field.
 - To add discover systems across a network address range, enter the lower IP address in the **From** field and higher IP address in the **To** field.
2. Enter the **Location** and **Function** that is to be applied to the discovered systems (optional).
3. Click **Apply**.
4. Once the discovery process has been completed the **Status** will show the amount of systems successfully added.

Below is a screenshot of the Add Managed Systems window.

Add Managed Systems

Add Systems to be Managed

You may add systems up to the maximums permitted by your license. Select License Management for details on licensing.

IP Address Range: **From:** **To:**

Enter the information to be used for grouping the managed systems within the tree

Location:

Function:

Apply

Status

Server Monitor User Interface

System Details Tab

The screenshot displays the SyAM Server Monitor Central web interface within a Microsoft Internet Explorer browser window. The address bar shows the URL `http://localhost:3930/Login`. The interface has a blue header with the title "Server Monitor" and navigation buttons: "Refresh", "Log Out", and "Add Managed Systems".

On the left sidebar, under "Server Monitor Central", there are filter options: "Filter By" (set to "All"), "Group by" (set to "Operating System"), and "Sorting" (set to "Host Name"). A list of managed systems is shown, with "Microsoft Windows XP Professional" selected, displaying "X XYZ-TRAINING (192.168.10.42)".

The main content area is titled "System Details : XYZ-TRAINING (192.168.10.42)". It features a tabbed interface with "System", "Hardware", "Network", "Storage", and "Software" tabs. The "System" tab is active, showing "System Information".

System Information

Machine Name: XYZ-TRAINING	Asset Number: <input type="text"/>
User: XYZ-TRAINING\Administrator	Asset Date Installed: <input type="text"/>
Domain/Workgroup: WORKGROUP	Asset Value: <input type="text" value="0"/>
Manufacturer: INTEL	Owner: <input type="text"/>
Machine Model: DQ965GF	Location: <input type="text"/>
Operating System: Microsoft Windows XP Professional	Function: <input type="text"/>
OS Version: 5.1.2600	Agent Version: V3.20.000-BL1515-3102-2270-Open (L)
OS Service Pack: Service Pack 2	Apply button

Below the system information is a "Power Management" button.

Board

Manufacturer: Intel Corporation	Manufacturer: Intel Corp.
Model: DQ965GF	Revision: Default System BIOS
Serial Number: BGGP62300147	Release Date: 20060627000000.000000+000
	SNBIDS Rev: C096510J.86A.4048.2006.0827.1704

CPU

Processor Model: Genuine Intel(R) CPU @ 2.40GHz	Clock Speed: 2400 Mhz
Manufacturer: GenuineIntel	Number of Logical CPUs: 2
Total CPU Utilization: 0 %	

Memory

Type	Total	In Use	Available	Utilization
Physical Memory	997 MB	411 MB	586 MB	41.22 %
Virtual Memory	2047 MB	45 MB	2002 MB	2.2 %
Page File	2429 MB	350 MB	2079 MB	14.41 %

Memory Slots: 4


Maximum Supported Memory: 8192 MB

Location	Label	Data Width	Form	Size (MB)	Type	Speed (Mhz)
J6H1	CHAN A DIMM 0	64	DIMM	512	Synchronous	533
J6J1	CHAN B DIMM 0	64	DIMM	512	Synchronous	533

Remote Management

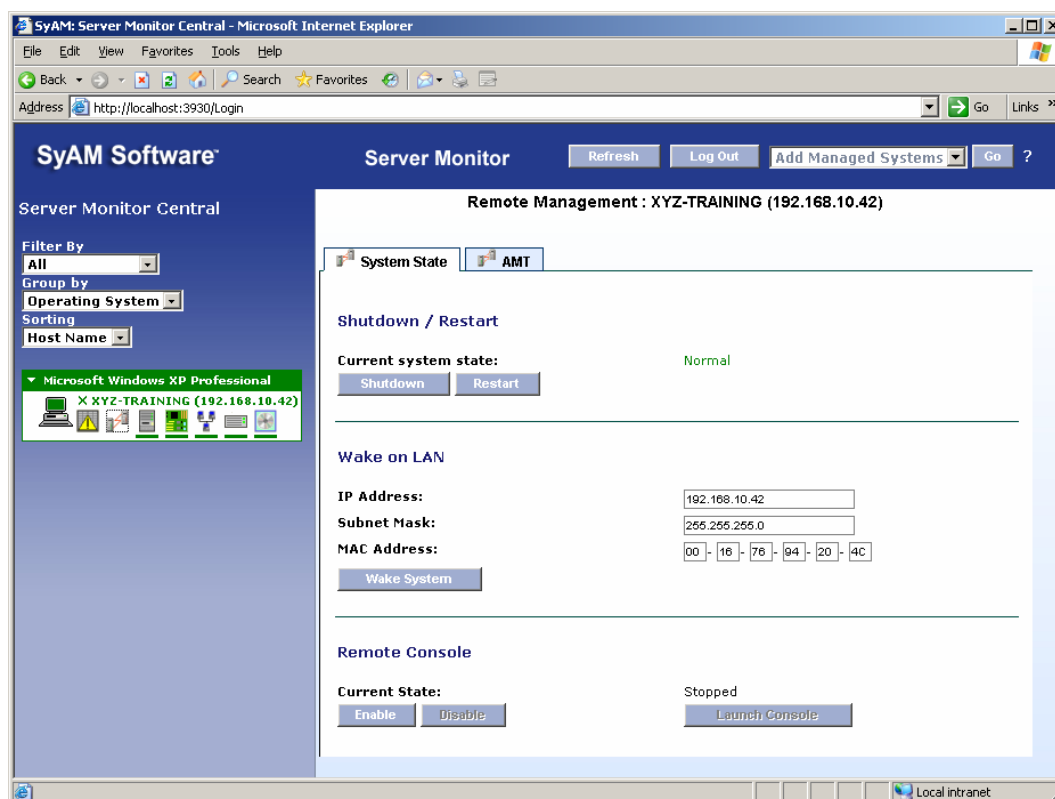
This section describes how to use the Remote Management capabilities in the Server Monitor Central.

Server Monitor Central provides remote management functions for its management systems, including Wake on LAN, Shutdown, Restart, Remote Console, and IPMI Log and IPMI over LAN for IPMI enabled systems, Intel AMT for Intel AMT enabled systems.

To access Remote Management, first click on the **IP Address** of the managed system shown in the Management Tree, then click on this icon: 

NOTE:

In order to use Shutdown, Restart, Remote Console options on a client system, the Local System Management software must be running.



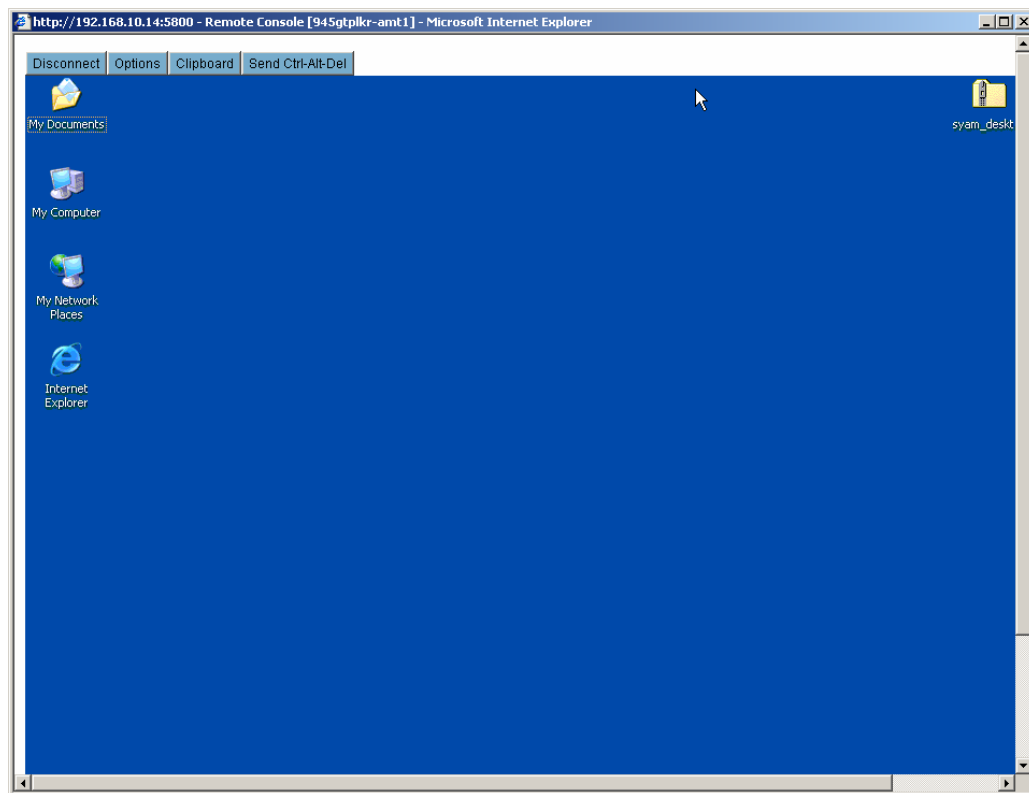
Remote Console

Remote Console provides mechanisms to take control of a managed systems local screen, mouse, and keyboard through Server Monitor Central interface using a Web browser. To launch remote console:

1. Click **Enable** to start service on the remote managed system and enable the Launch Console.
2. Click **Launch Console** to establish a remote console session.

Once the console has launched, it will prompt you to enter a password for the remote system. The default password is 1234 for Microsoft Windows systems and 12345678 for Linux systems.

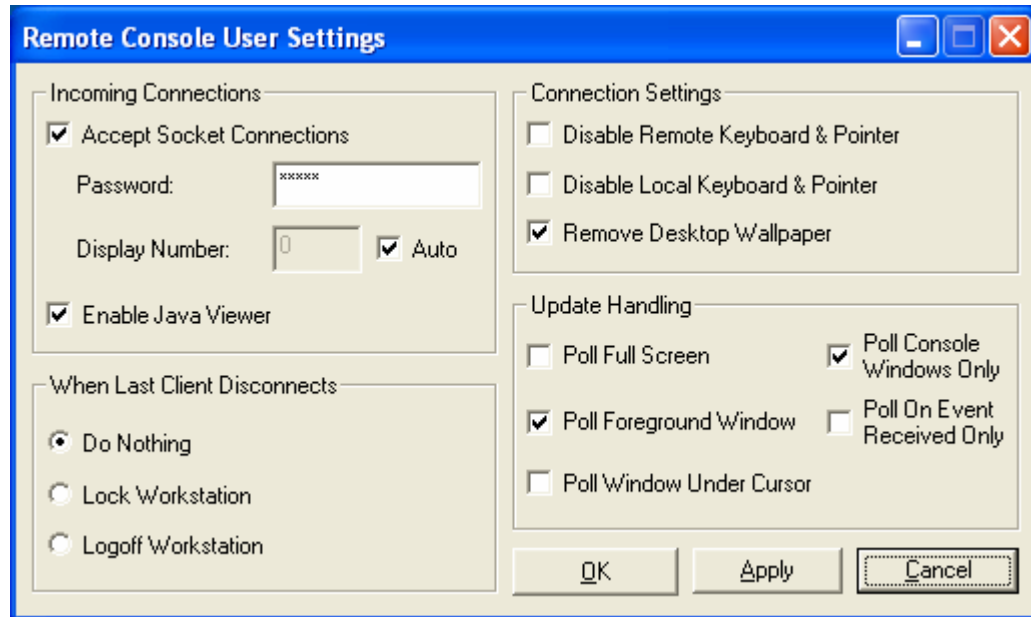
3. After you entered the correct password, the screen of the remote system should look like the screenshot below. You can use the remote system as if you logged on it directly.



Now the window presents the managed system. Once you have finished, click on the **Disconnect** button to close the window.

You can change the remote console password if you wish. Here is how to do it.

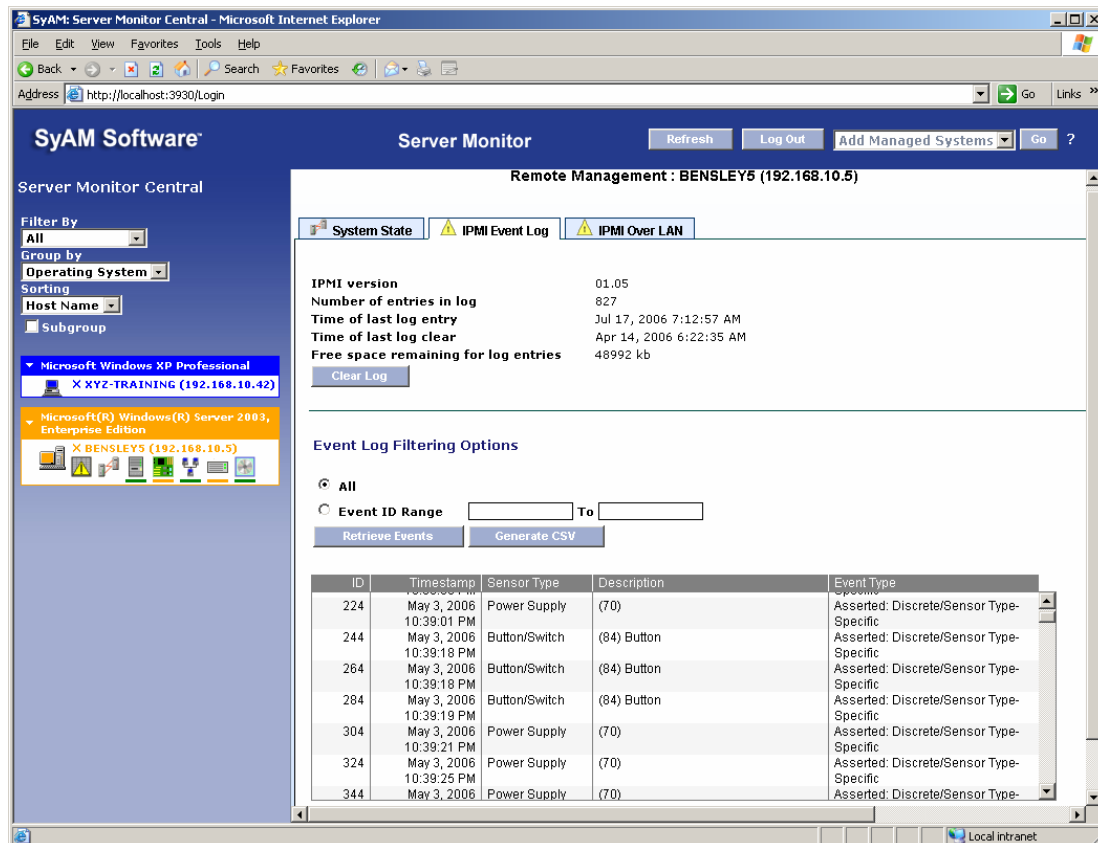
Within the system you wish to change the password, click **Start->All Programs->SyAM->Remote Console User Settings**. The window below will come up. Enter a new password in the Password field and then click **OK** to save the change.



IPMI Event Log

Server Monitor Local monitors the operation of the server. However the physical events occurring on the **IPMI enabled servers** that are being managed which are logged within the Baseboard Management Controller (BMC) can be viewed through the IPMI Event Log.

The IPMI event log allows administrators to retrieve and view all events occurring reported by a specific server. To access the IPMI even log, the system must be IPMI enabled and running a valid Server Monitor Agent.



NOTE:

IPMI tabs appear only when servers with IPMI support are added to management tree.

IPMI Event Retrieval

The IPMI Event Log provides the administrator with the option of retrieving and viewing some or all the event logs.

To retrieve all the logs, select **All** from the Event Log Filtering Options heading and then click **Retrieve Events**.

To retrieve partial logs, enter a beginning and ending event ID and then click **Retrieve Events**.

IPMI over LAN

Server Monitor provides IPMI Over LAN power management and event log capabilities.

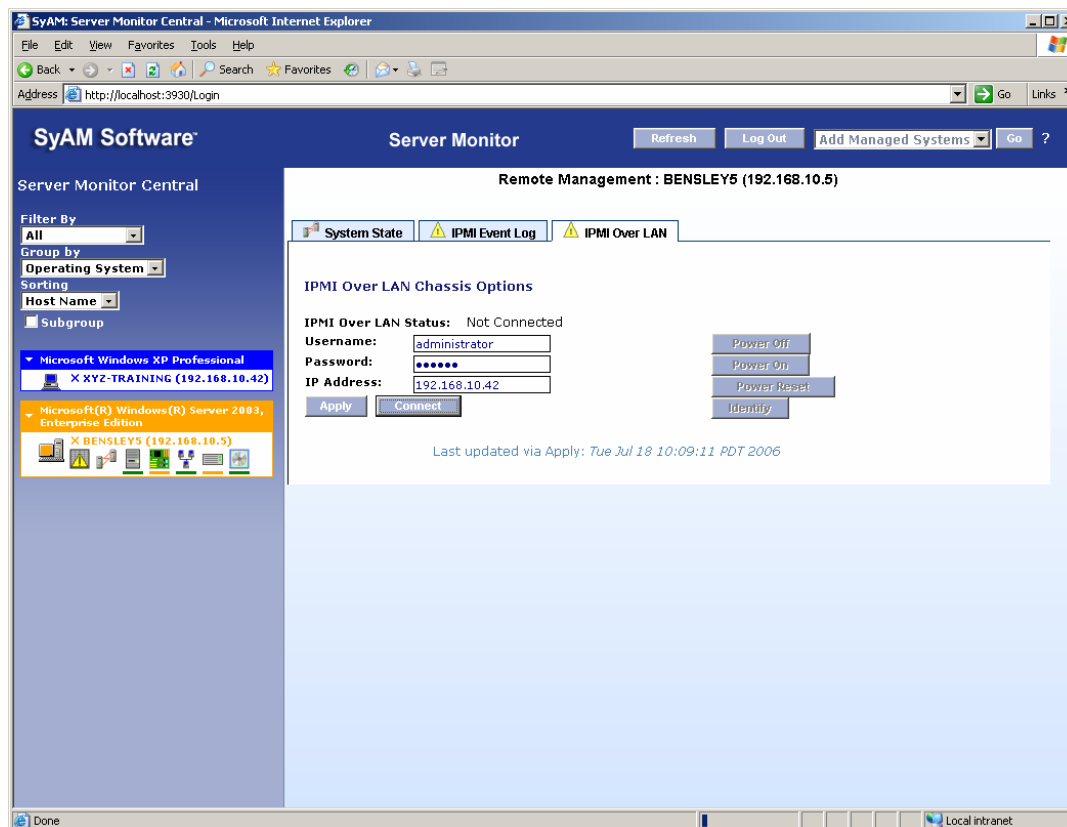
You must first configure the BMC's IP address and password before you can use this IPMI Over LAN feature.

Enter the user name, password, IP address of the BMC for the managed system, and then click **Apply** to save the data.

Once you save the user name, password, and IP address information, click **Connect** to access the managed system's BMC over LAN.

Once connected, you can perform the following actions.

- Power On
- Power Off
- Power Reset
- Identify – This varies by hardware platform
- Event Log



Intel AMT

Systems that have Intel AMT hardware provide an additional tab called AMT under the Remote Management page.

When you click on the AMT tab, two pages will display:

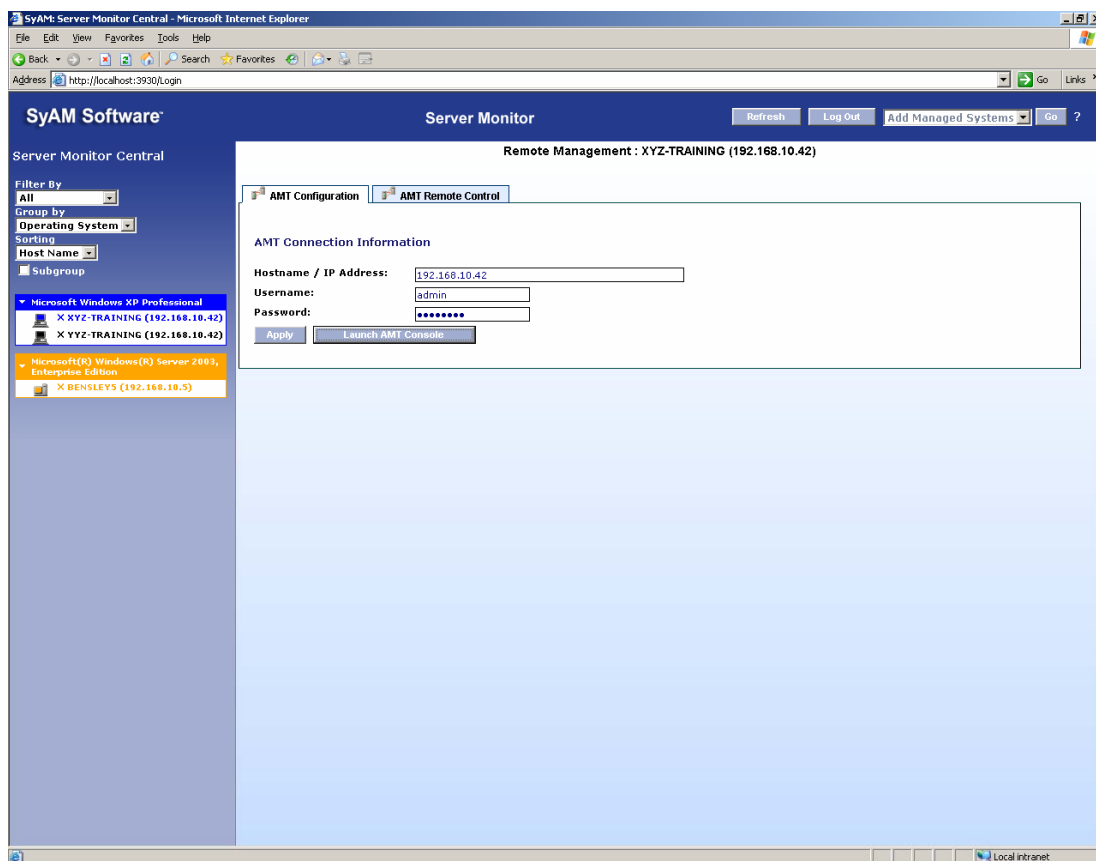
- AMT Configuration
- AMT Remote Control

AMT Configuration

From the AMT Configuration page, you must configure the Intel AMT connection information with the details for out-of-band access to the Intel AMT platform.

- IP address – This is the IP address you entered in section **Configuring Intel AMT**
- Username – Enter **admin**
- Password – Enter the password for the Intel AMT configuration page

Click **Apply** to save all entered information.



By clicking **Connect**, you can connect to the AMT Client out of band. This screen will function even if the client is no longer in an Operating System Functional state. Once connected the following features are available.

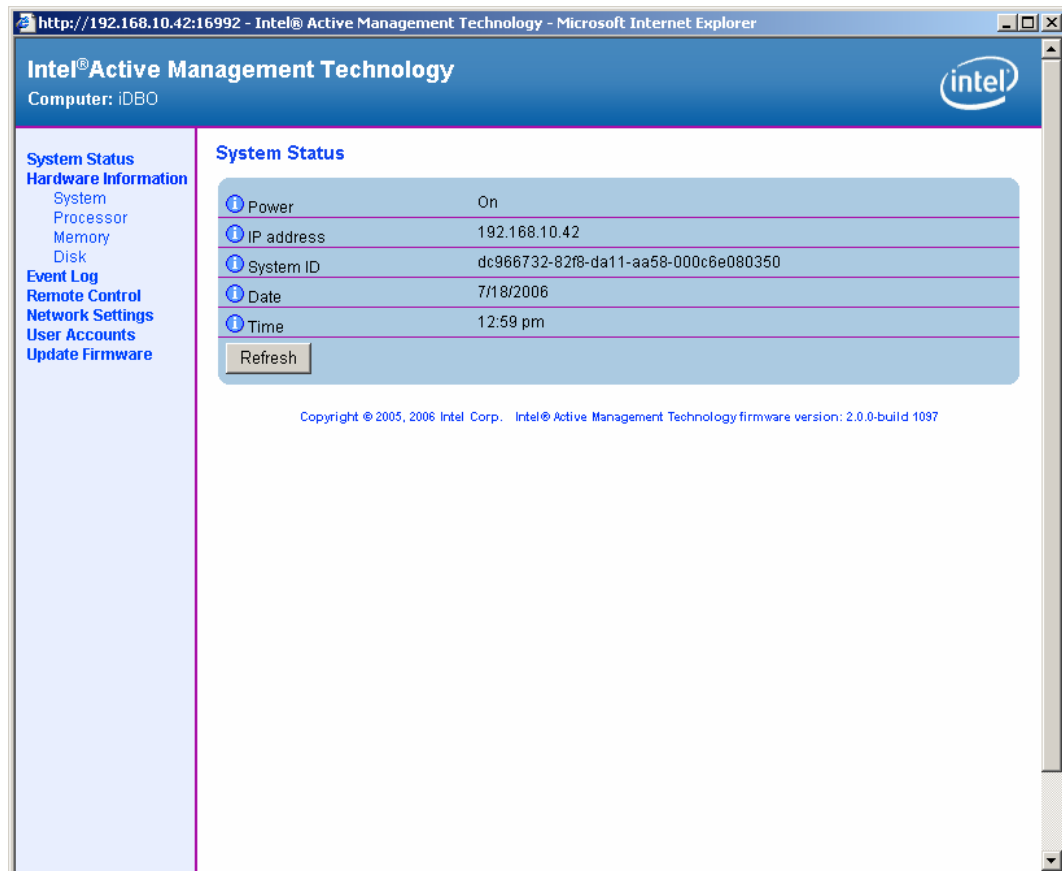
- Turn power on
- Turn power off
- Cycle power off and on
- Reset

You can also launch the Intel AMT console by clicking **Launch AMT Console**. Once the AMT console comes up, the following features are available.

- System Status
- Hardware Information
- Event Log
- Remote Control
- Network Settings
- User Accounts
- Update Firmware

System Status

The System Status page shows the status of the system being managed.



Hardware Information

The Hardware Information page shows:

- System Information
- Processor Information
- Memory Information
- Disk Information

Click on the corresponding links to see detailed information.

The screenshot displays the Intel Active Management Technology web interface in a Microsoft Internet Explorer browser window. The address bar shows the URL: <http://192.168.10.42:16992>. The page title is "Intel® Active Management Technology" and the computer name is "IDBO".

The interface has a left-hand navigation menu with the following links: System Status, Hardware Information (selected), System, Processor, Memory, Disk, Event Log, Remote Control, Network Settings, User Accounts, and Update Firmware.

The main content area is titled "System Information" and contains three sections:

Platform

Computer model	
Manufacturer	
Version	
Serial number	
System ID	dc966732-82f8-da11-aa58-000c6e080350

Baseboard

Manufacturer	Intel Corporation
Product name	DQ965GF
Version	AAD41676-301
Serial number	BQGF62300147
Asset tag	Base Board Asset Tag
Replaceable?	Yes

BIOS

Vendor	Intel Corp.										
Version	C096510J.86A.4048.2006.0627.1704										
Release date	06/27/2006										
Supported functions	<table border="0"> <tr> <td>PCI</td> <td>Upgradeable</td> </tr> <tr> <td>Shadowing is allowed</td> <td>Boot from CD</td> </tr> <tr> <td>Selectable boot</td> <td>EDD spec</td> </tr> <tr> <td>8042 keyboard services</td> <td>Serial services</td> </tr> <tr> <td>Printer services</td> <td>CGA/Mono video services</td> </tr> </table>	PCI	Upgradeable	Shadowing is allowed	Boot from CD	Selectable boot	EDD spec	8042 keyboard services	Serial services	Printer services	CGA/Mono video services
PCI	Upgradeable										
Shadowing is allowed	Boot from CD										
Selectable boot	EDD spec										
8042 keyboard services	Serial services										
Printer services	CGA/Mono video services										

Event Log

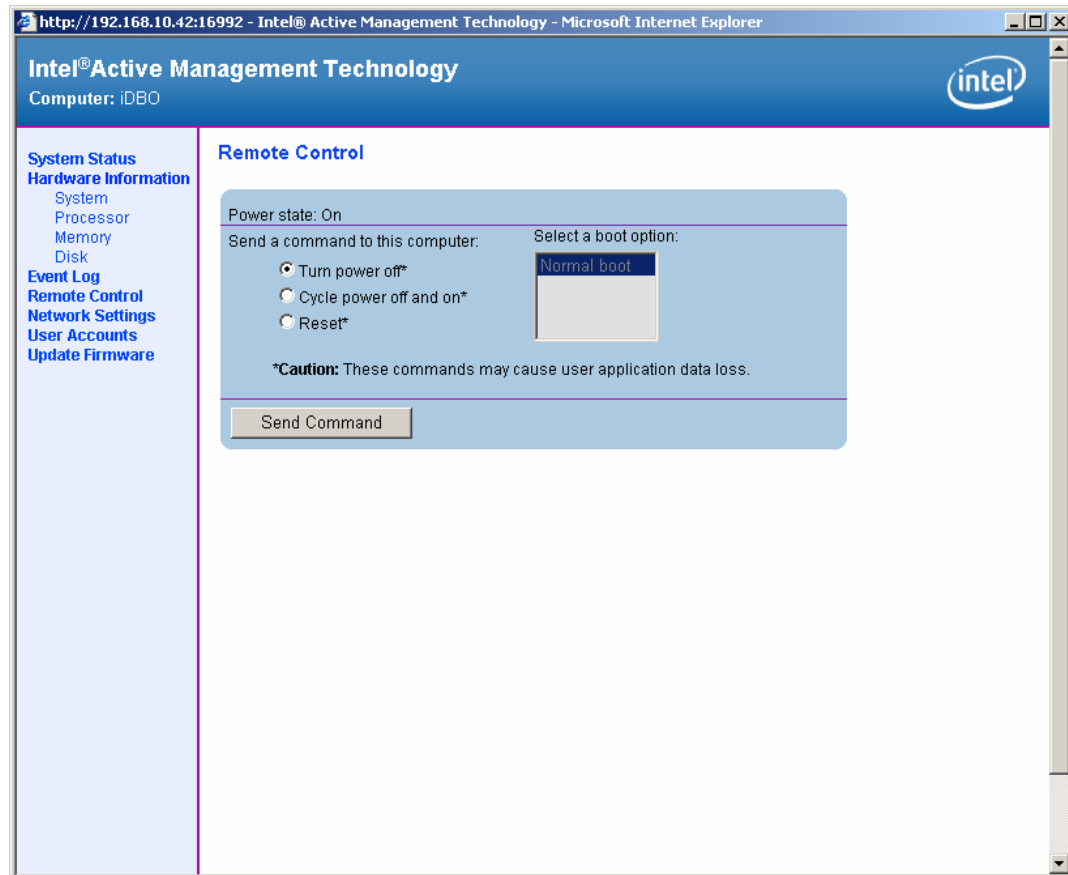
The Event Log page displays information of all events it logs from BIOS.

Event	Time	Source	Description
1	7/18/2006 12:10 pm	BIOS	Starting operating system boot process.
2	7/18/2006 12:10 pm	BIOS	Unspecified platform event.
3	7/18/2006 12:10 pm	BIOS	Embedded or management controller initialization.
4	7/18/2006 12:10 pm	BIOS	Baseboard initialization.
5	7/18/2006 12:10 pm	BIOS	keyboard test.
6	7/18/2006 12:10 pm	Intel® AMT	System boot failure.
7	7/18/2006 12:10 pm	BIOS	Primary processor initialization.
8	7/18/2006 12:10 pm	BIOS	Starting secondary processor initialization.
9	7/18/2006 12:09 pm	BIOS	Baseboard initialization.
10	7/18/2006 12:09 pm	BIOS	keyboard test.
11	7/18/2006 12:09 pm	Intel® AMT	System boot failure.
12	7/18/2006 12:09 pm	BIOS	Primary processor initialization.
13	7/18/2006 12:09 pm	BIOS	Starting secondary processor initialization.
14	7/18/2006 12:08 pm	BIOS	Starting operating system boot process.
15	7/18/2006 12:08 pm	BIOS	Unspecified platform event.
16	7/18/2006 12:08 pm	BIOS	Embedded or management controller initialization.
17	7/18/2006 12:08 pm	BIOS	Baseboard initialization.

Remote Control

On the Remote Control page, you can:

- Turn power off
- Cycle power off and on
- Reset the system.



Network Settings

On the Network Settings page, you can obtain IP settings automatically, get the systems IP information, or tell the system to respond to a ping.

The screenshot shows a web browser window with the address bar displaying `http://192.168.10.42:16992 - Intel® Active Management Technology - Microsoft Internet Explorer`. The page title is "Intel® Active Management Technology" and the computer name is "iDBO". The Intel logo is in the top right corner.

On the left side, there is a navigation menu with the following items: "System Status", "Hardware Information" (with sub-items: "System", "Processor", "Memory", "Disk"), "Event Log", "Remote Control", "Network Settings" (highlighted), "User Accounts", and "Update Firmware".

The main content area is titled "Network Settings" and contains the following form:

Configure Intel® Active Management Technology network settings for this computer.

Computer host name:

☐ Obtain IP settings automatically

☒ Use the following IP settings:

IP address:

Subnet mask:

Gateway address*:

Domain name*:

Preferred DNS address*:

Alternate DNS address*: *Optional

☒ Respond to ping

☐ Use tagged VLAN

VLAN ID:

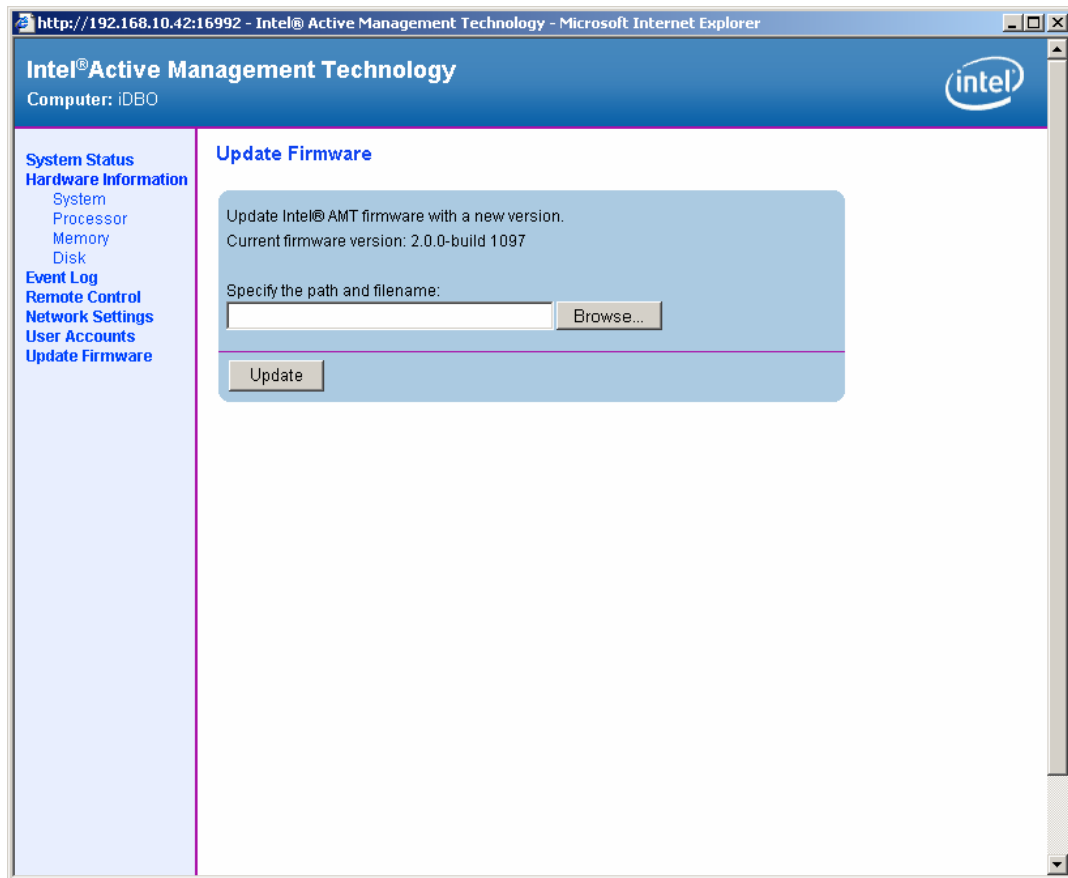
User Accounts

On the New User Account page, you can add new users and set permissions for the new users.

The screenshot shows a web browser window with the address bar displaying `http://192.168.10.42:16992 - Intel® Active Management Technology - Microsoft Internet Explorer`. The page title is "Intel® Active Management Technology" and the computer name is "IDBO". The Intel logo is in the top right corner. On the left, a navigation menu lists: "System Status", "Hardware Information" (with sub-items: System, Processor, Memory, Disk), "Event Log", "Remote Control", "Network Settings", "User Accounts" (highlighted), and "Update Firmware". The main content area is titled "New User Account". It contains two sections: "User name:" with a text box containing "John_doe", and "Password:*" with two masked text boxes for password and confirm password. To the right, the "Permissions" section has two radio buttons: "Administrator: Grant access to all pages." (unselected) and "Grant access to:" (selected). Under "Grant access to:", there are four checked checkboxes: "Hardware Information", "Event Log", "Remote Control", and "Update Firmware". A note at the bottom states: "*Minimum 8 characters with upper and lowercase, 0-9, and one of !@#\$\$%&*()". At the bottom of the form are "Submit" and "Cancel" buttons.

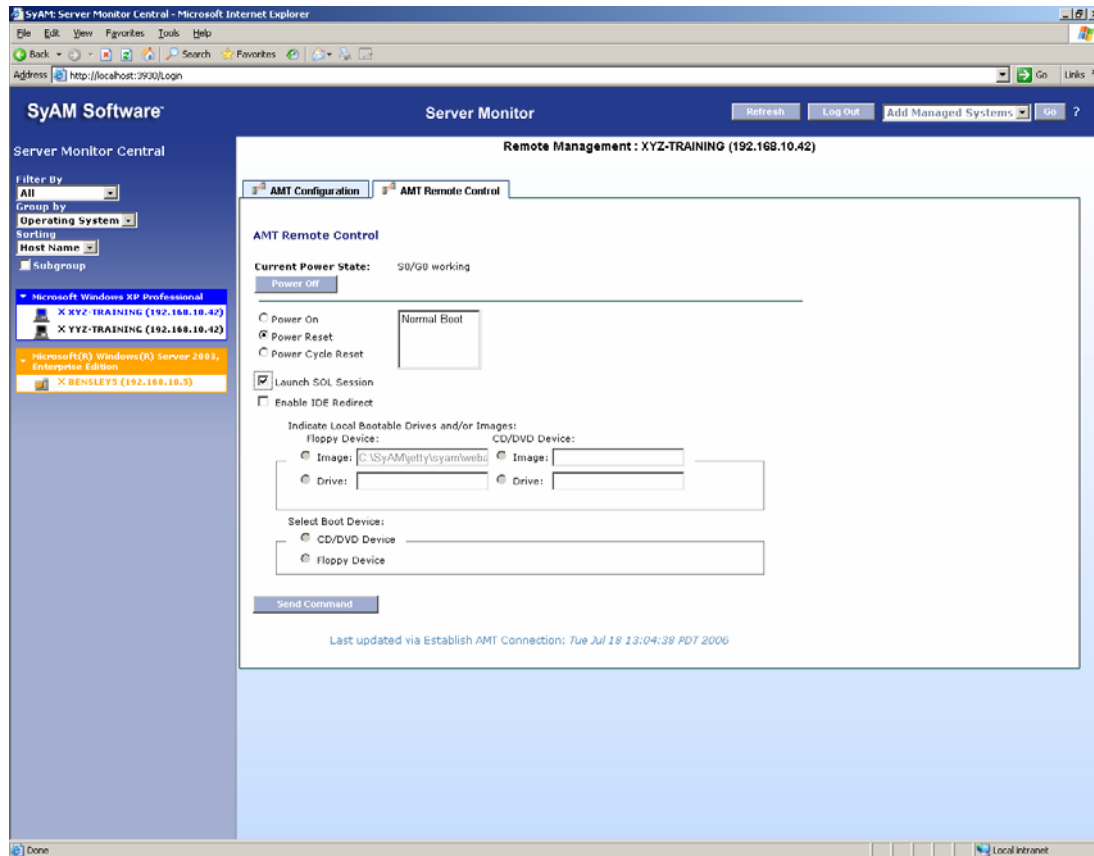
Update Firmware

On the Update Firmware page, you can update Intel AMT firmware remotely.



AMT Remote Control

AMT Remote Control provides functionality to power off, launch Serial Over LAN (SOL) session, and enable IDE Redirection.



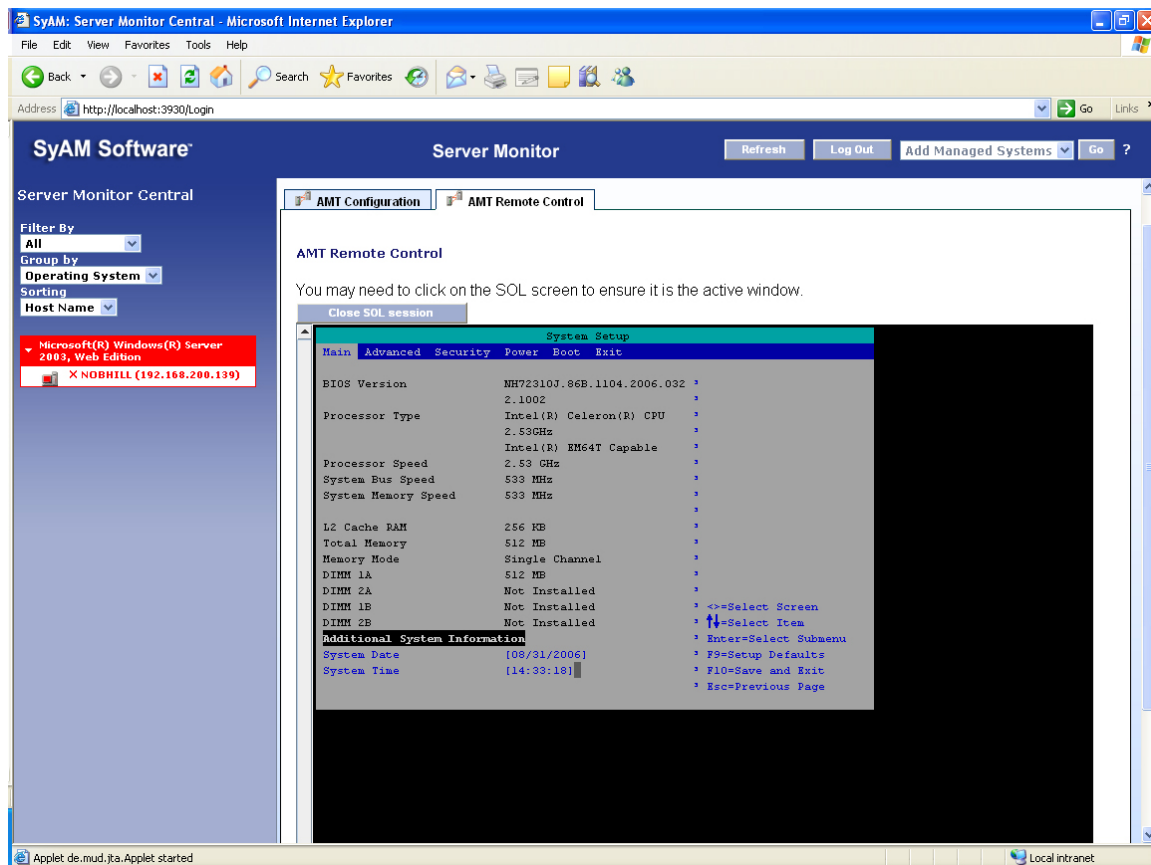
Serial Over LAN (SOL)

Serial Over LAN enables a user to remotely reboot a system and access its Bios. This allows the user to remotely access the system to change any previous settings and to configure the system to their specifications.

In order to create an SOL session, the user must first verify the current power status and then select a power function. Next, click the 'Launch SOL Session' box, and then click on the 'Send Command Button'.

Note: When creating an SOL session, you are only able to boot the system normally. You cannot specify special commands such as PXE.

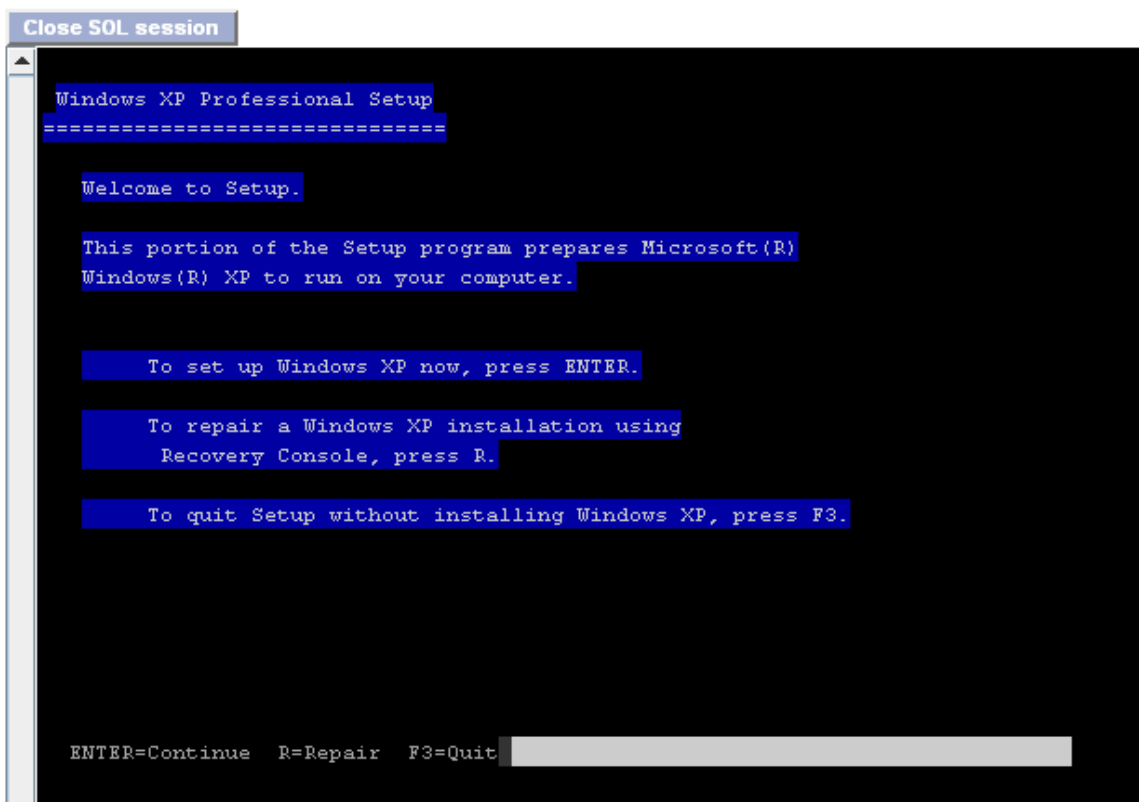
Below is an example of using SOL to access a computer's Bios.



IDE-Redirect

IDE-Redirect enables an AMT system to boot from an image, floppy, CD or DVD device on your local system. In order to boot from a CD/DVD or floppy device, you must put that device into the local system you are using to browse to the SMC.

To invoke the IDE Redirect either click on the Power Reset or Power On buttons and click in the SOL and IDE-R check boxes. Under image or drive, indicate which image or drive you want the system to boot from, then select the boot device, and click 'Send Command'.



IDE-R on a Windows Server Monitor Central

When using a Windows Server / Desktop Monitor Central you need to use the Microsoft Windows syntax for the Floppy disk device and CD ROM device.

Here is an example of the IDE-Redirect on a Linux SMC to the CD Rom device, it also shows the syntax for the floppy device.

☐ Power On
☒ Power Reset
☐ Power Cycle Reset

Normal Boot
PXE Boot
Force Hard Drive Boot
Force CD / DVD boot

☒ Launch SOL Session
☒ Enable IDE Redirect

Indicate Local Bootable Drives and/or Images:

Floppy Device: CD/DVD Device:

☐ Image: /syam/jetty/syam/web
☒ Drive: a:

☐ Image:
☒ Drive: d:

Select Boot Device:

☒ CD/DVD Device
☐ Floppy Device

Send Command

If you are unsure if the Microsoft Windows SMC has a floppy disk drive or what the logical letter of the CD ROM device is, browse to the Storage screen of the Microsoft Windows SMC/DMC

Below is an example of the Storage screen showing a floppy drive present and the CD ROM Device being identified as D:

If no floppy disk drive is present, then you must select the bootable image.

Storage Details

Logical Disks

Name	Type	Total Size	Free Space	Space Used	Utilization
(A:)		0 MB	0 MB	0 MB	0%
(C:)	NTFS	48.83 GB	9.05 GB	39.78 GB	81%
(D:)		0 MB	0 MB	0 MB	0%
(E:)		0 MB	0 MB	0 MB	0%
(F:) Data Volume	NTFS	62.96 GB	11.93 GB	51.03 GB	81%

System Alert Matrix

The System Alert Matrix provides a detailed, color-coded view of the status of all monitored components in a specific managed system.

To select individual instances, click on the appropriate boxes for each instance. To select the entire category, click on the bolded header.

If you would like to receive email notifications, enter the required information in the notification setting section and click **Apply** to save the changes. Click **Test Notification** to send a test email and make sure your configuration is accurate.

NOTE

Through the Server/Desktop/Notebook Local interface, the System Alert Matrix is restricted to email configuration only.

SyAM Software Server Monitor

Alerts : Server Monitor Local : XYZ-TRAINING (10.10.200.87)

System Alert Matrix

Physical Sensors		Lower Threshold	Upper Threshold	No Alerts							Warning Alerts					Critical Alerts				
Description	Critical	Warning	Current	Warning	Critical	No Monitoring	Email	SMS /Pager	SMC	Network Message	SNMP Trap	System Event Log	Email	SMS /Pager	SMC	Network Message	SNMP Trap	System Event Log		
Fans (RPM)						<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Temperature (°C)						<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Voltagess (v)						<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Restore Physical Sensor Thresholds																				
Logical Sensors		Current	Threshold	No Alerts							Alerts					Intervals				
Description				No Monitoring	Email	SMS /Pager	SMC	Network Message	SNMP Trap	System Event Log	Sample Period	Reset Period								
Network Adapters				<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
Physical Disks				<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
Logical Disks		90		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8 Hr	168 Hr								
CPU Utilization (%)		90		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 Min	15 Min								
Memory Utilization (%)		90		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4 Min	15 Min								

Notification Settings

Example

Email Address: admin@company.com

SMS/Pager Address:

Network Message Machine Name: 192.168.1.1

SMC System: 10.10.200.7 192.168.1.1

Username: Username

Sender's Email Address: Local.Admin@company.com

Sender's Email Password:

Server/Desktop/Notebook Monitor Local User Interface

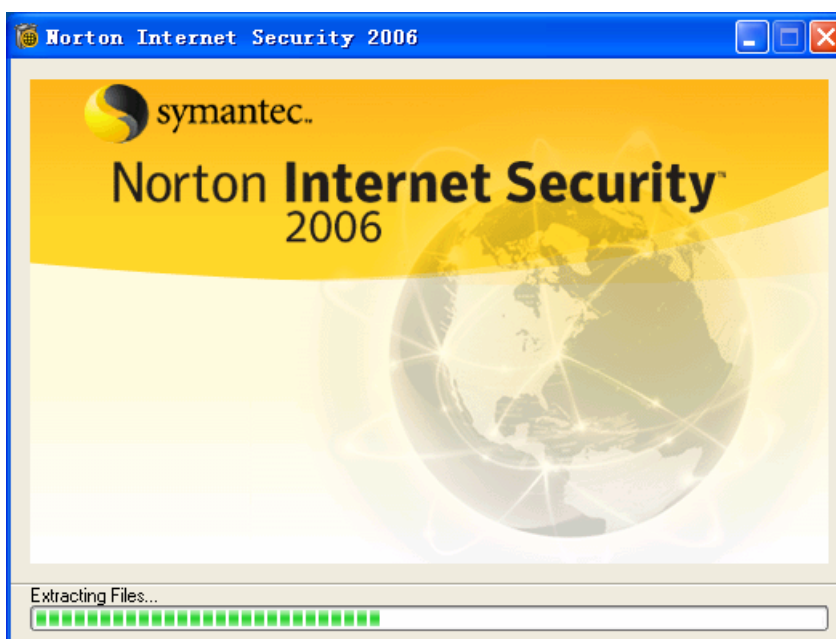
Refer to the **Server Monitor User Interface** section on page 22 for details about using the Desktop/Notebook Monitor user interface.

Anti-virus Application

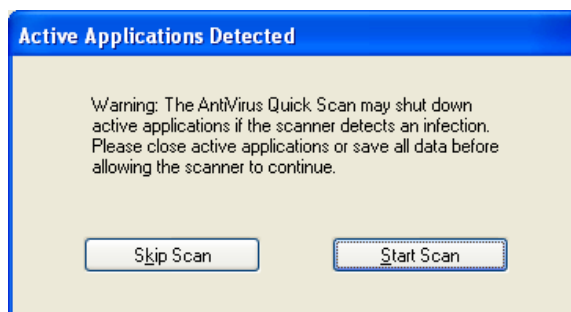
One of the most critical challenges facing businesses today is finding ways to keep PCs secure from malicious attacks such as viruses or worms. These attacks typically enter the network via emails, attachments, or downloaded files and they can destroy data and cripple networks. To make your network more secure, add another layer of protection with Intel vPro technology and Symantec Norton Internet Security 2006.

Installing Anti-virus Software

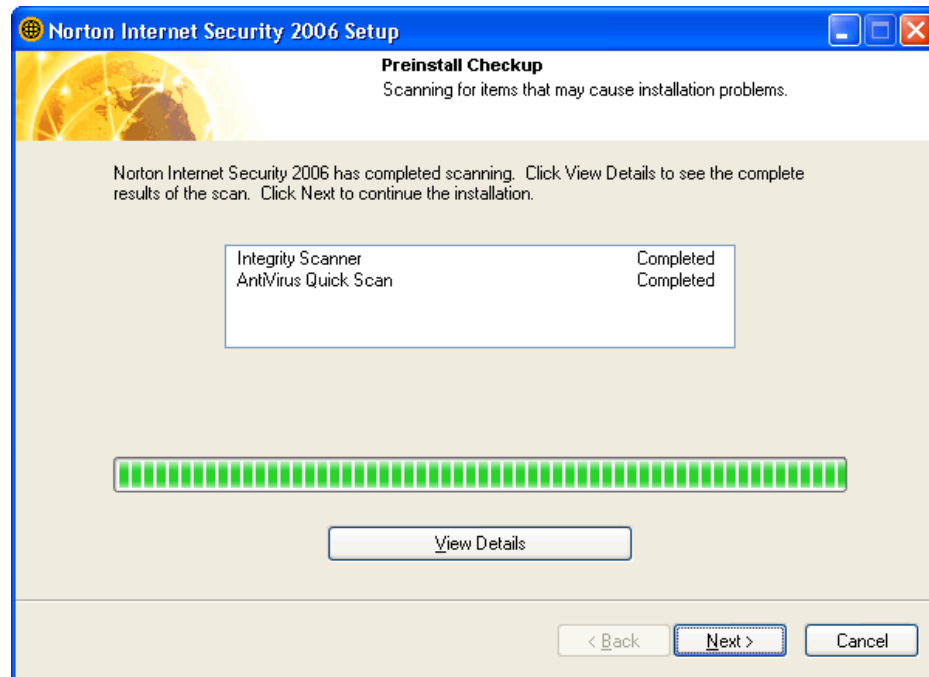
1. Insert the CD into the CD-ROM drive. The opening panel pops up and the installation wizard automatically extracts installation files.



2. After installation files are extracted, the preinstall scan window pops up automatically. If the Active Applications Detected panel appears, close all open programs, and then click **Start Scan**. The preinstall scan begins, and will take a few minutes.



3. After scan, click **Next** to continue.



4. In the **Select the installation type** panel, select the type of installation you want, and then select the folder where you want to install Norton Internet Security. Click **Next**. The Installation Progress panel tracks the progress of the installation. This will take a few minutes.



5. Click **Finish** to restart your computer. Your computer is not protected until it restarts and you complete the configuration.



Troubleshooting and Known Issues

Central management licensing is not initialized.

This is due to the outdated versions of the BIOS and BMC firmware. Updating to the latest BIOS and BMC firmware should fix this problem.

Why can't I see the AMT tab?

To be able to see the AMT tab, you need SyAM Server Monitor Central 3.2 and SyAM Server/Desktop/Notebook Monitor Local 3.2 or above installed on an Intel® Express Chipset-based platform or Intel vPro technology-based PC that has AMT support.

Why can't I see the IPMI tab?

IPMI is used to manage servers. To be able to see the IPMI tab, you need an IPMI-enabled system on the network.

Why is one of the managed systems in red?

This indicates hardware health issues, such as a malfunctioning fan or failed hard disk.

Support References

Intel has thoroughly tested and verified the components in this solution deployment guide. Please continue to use your existing Intel® Support Services for information on Intel®-based hardware, including Intel® Processors, Intel® Desktop and Server Boards, and associated drivers: <http://www.intel.com/go/Channel/Support>.

For your convenience, Intel has worked with the following independent software vendors, open source vendors, and application vendors to streamline technical support for this solution. For more information on the third-party software products, please visit the following links.

Products	Link
Microsoft Windows	http://support.microsoft.com/
SyAM Software	www.syamsoftware.com/support
Norton Internet Security	www.symantec.com/techsupp/